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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/721,141 | 11/22/2000 | Neelamadhaba Mahapatro | 44431/233237 (JA13237-153) | 7049 |
| 45979 | 7590 | 12/01/2006 | EXAMINER | |
| PERKINS COIE LLP/MSFT P. O. BOX 1247 SEATTLE, WA 98111-1247 | | | MEINECKE DIAZ, SUSANNA M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3694 | |

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/721,141

Applicant(s)

MAHAPATRO, NEELAMADHABA

Examiner

Susanna M. Diaz

Art Unit

3694

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 72-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 72-91 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 19, 2006 has been entered.

Claims 50-71 have been cancelled.

Claims 72-91 have been added and are presented for examination.

Response to Arguments

2. Applicant's arguments filed September 19, 2006 regarding the art rejection have been fully considered but they are not persuasive.

Applicant broadly asserts that the currently recited claim limitations are not taught or suggested by Brown. The Examiner respectfully disagrees and explains her position in greater detail in the art rejection found below.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 86-91 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 86-91 recite various "components." The scope of each component is unclear. Does a "component" refer to software *per se* or software executed by a hardware element of the system?

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 72-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. Patent No. 5,671,361).

Brown discloses a computer-implemented method for generating a schedule for a project, the method comprising:

[Claim 72] receiving resource information describing resources available to tasks of the project and resource constraints, a first resource having a first resource constraint and a second resource having a second resource constraint, the first and second resources being different (col. 3, lines 15-29, 56-64; col. 4, lines 6-44; col. 6, line 17 through col. 7, line 50, including Tables 1-3 – Brown's activities are equivalent to the

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claimed tasks. Brown's resources are equivalent to the claimed resources. The maximum number of resources available, as seen in col. 4, lines 5-44, is a constraint associated with each type of resource);

receiving task information identifying tasks of the project and task constraints, a task specifying one or more resources that are to be used to complete the task, at least one designated task having a designated task constraint and specifying at least the first resource and the second resource (col. 6, line 17 through col. 7, line 50, including Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44); and

automatically dividing the designated task into a first assignment completable by only the first resource and having a first assignment constraint based on the designated task constraint, and a second assignment completable by only the second resource and having a second assignment constraint based on the designated task constraint (Table 1 -- With each activity, an assignment contributing to the activity is made to resource type 1, resource type 2, and resource type 3. Col. 6, lines 54-57 show an example where a first assignment for activity F6 could be made to resource type 1, which is 1 truck. F6 corresponds to a second assignment that is completable by resource type 2, which is 1 worker. In other words, a first assignment of resource type 1 is only assigned

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to and may be completed by trucks. A second assignment of resource type 2 is only assigned to and may be completed by workers. Resource type 3, i.e., money, can be presented as an alternate to a first assignment, second assignment, or may serve as a third assignment);

scheduling the first assignment based at least on the first assignment constraint and the first resource constraint (col. 6, line 17 through col. 7, line 50, including Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44); and

scheduling the second assignment based at least on the second assignment constraint and the second resource constraint (col. 6, line 17 through col. 7, line 50, including Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A

precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task);

[Claim 73] receiving priorities for the tasks (col. 3, lines 15-29, 56-64; col. 4, lines 24-48); and

scheduling the assignments of a high priority task before scheduling the assignments of a low priority task (col. 3, lines 15-29, 56-64; col. 4, lines 24-48; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task);

[Claim 74] receiving priorities for the tasks (col. 3, lines 15-29, 56-64; col. 4, lines 24-48);

setting priorities of assignments based on the priority of their tasks (col. 3, lines 15-29, 56-64; col. 4, lines 24-48; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown.

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The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task); and

adjusting the priority of assignments based on availability of the resources of the assignments (col. 3, lines 15-29, 56-64; col. 4, lines 24-48; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task); and

scheduling the assignments in adjusted priority order (col. 3, lines 15-29, 56-64; col. 4, lines 24-48; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among

the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task);

[Claim 75] receiving a specification of dependencies between tasks (Fig. 3; col. 3, lines 27-29, 55-67; col. 6, lines 17-33; col. 10, lines 40-44);

scheduling the assignments of independent tasks before the assignments of dependent tasks (Fig. 3; col. 3, lines 27-29, 55-67; col. 6, lines 17-33; col. 10, lines 40-44);

[Claim 76] receiving a specification of dependencies between tasks (Fig. 3; col. 3, lines 27-29; col. 6, lines 17-33; col. 10, lines 40-44); and

scheduling the assignments of tasks in dependency order of the tasks (Fig. 3; col. 3, lines 27-29; col. 6, lines 17-33; col. 10, lines 40-44; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task);

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[Claim 77] receiving a time constraint of a task (Fig. 3; col. 3, lines 27-29, 56-64; col. 6, lines 17-65; col. 10, lines 40-44); and

scheduling the assignments of tasks so that the time constraint of the task is satisfied (Fig. 3; col. 3, lines 27-29, 56-64; col. 6, lines 17-65; col. 10, lines 40-44; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types, or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task);

[Claim 78] wherein the scheduling of the assignments of tasks schedules assignments to satisfy start-on constraints before satisfying must-finish-by constraints (Fig. 3; col. 3, lines 27-29, 56-64; col. 6, lines 17-65; col. 10, lines 40-44; Tables 1-3 – Brown's listing of resource types with the number of units needed to complete each activity is equivalent to the claimed assignments. Examiner's interpretation is supported by Table 2 in Applicant's specification and its comparison to the type of information shown in Table 1 of Brown. The tasks are constrained by the availability of resources as well as precedence relationships among the tasks, as seen in col. 4, lines 5-44, col. 5, lines 39-40, and col. 10, lines 38-44. The availability of the different resource types,

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or assignments, controls which activities may be performed. A precedence is attributed to all tasks and, therefore, the corresponding resource assignments associated with each task).

Regarding claim 1, Brown does not expressly teach that the scheduling of the second assignment is performed after scheduling of the first assignment. However, Brown does mention that resource demand is normalized across various resources in order to give an idea of which activities require harder-to-schedule resources (cols. 9-10). Official Notice is taken that it is old and well-known in the art of resource assignment to schedule harder-to-schedule or more scarce resources for an activity prior to scheduling easier-to-schedule or more abundant resources for that same activity. This practice facilitates more efficient scheduling by giving preference to resources with tighter constraints, thereby preventing unnecessarily running through scenarios that first give preference to easier-to-schedule resources only to realize that the harder-to-schedule resources are not available. Since Brown already suggests giving preference to harder-to-schedule activities (which correspond to multiple resources), the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Brown such that the scheduling of the second assignment is performed after scheduling of the first assignment in order to facilitate more efficient scheduling by giving preference to resources with tighter constraints, thereby preventing unnecessarily running through

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scenarios that first give preference to easier-to-schedule resources only to realize that the harder-to-schedule resources are not available.

[Claims 79-85] Claims 79-85 recite limitations already addressed by the rejection of claims 72-78 above; therefore, the same rejection applies. Brown's invention is a computerized system and therefore incorporates software to perform the recited functionality.

[Claims 86-91] Claims 86-91 recite limitations already addressed by the rejection of claims 72-78 above; therefore, the same rejection applies. Brown's invention is a computerized system and therefore incorporates hardware and software to perform the recited functionality.

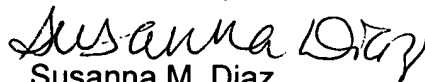
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 8 am - 4:30 pm.

 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (571) 272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Susanna M. Diaz
Primary Examiner
Art Unit 3694

November 26, 2006